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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,104	02/13/2004	Hiroaki Kato	018775-894	5344
21839	7590	03/29/2006	EXAMINER	
BUCHANAN INGERSOLL PC (INCLUDING BURNS, DOANE, SWECKER & MATHIS) POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			RODEE, CHRISTOPHER D	
			ART UNIT	PAPER NUMBER
			1756	

DATE MAILED: 03/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

CM

Office Action Summary	Application No. 10/777,104	Applicant(s) KATO ET AL.	
	Examiner Christopher RoDee	Art Unit 1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 16-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-19 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/13/04 11/4/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-15, drawn to a toner, classified in class 430, subclass 108.6.
- II. Claims 16-19, drawn to a method of using the toner, classified in class 430, subclass 126.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the product as claimed can be used in another and materially different process, such as applying a stencil to the surface of a dielectric sheet having a uniform electrostatic charge, spraying toner onto the stencil so that it passes through the stencil openings to form a pattern, and fixing the patterned toner image to the surface of the dielectric sheet.

Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with George Lesmes on 10 May 2006 a provisional election was made **without** traverse to prosecute the invention of Group I, claims 1-15. Affirmation of this election must be made by applicant in replying to this Office action. Claims 16-19 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

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Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 5, and 12-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Sata *et al.* in US Patent Application Publication 2003/0099890.

Sata discloses a non-magnetic black toner comprising particles of a resin and a metal oxide colorant with externally added fine particles (Abstract; ¶ [0067]). The oxide particles contain at least two metals with preferred metals being Mg, Al, Mn, Fe, and Cu (¶ [0018]). Commercially available colorants useful in the toner include ETB-100, which is a Ti, Fe complex oxide with a specific surface area of 480 m²/100 g or 4.8 m²/g,, (Table 2). The content of the metal oxide is 10 parts by weight per 100 parts of binder resin in the examples (¶ [0066]).

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Based on the total amount of components in the examples, the composite oxide is present in an amount of 9 weight % (700/7770). The reference teaches that charge control agents are added to the toner (§ [0038]) and given the fact that there are only two possible polarities of charge (positive and negative) both are seen as being disclosed by the reference for claim 15.

Claims 1, 2, 5, 9, 11-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Gambayashi in US Patent Application Publication 2003/0198882.

Gambayashi discloses a non-magnetic one-component developer that is a toner comprising a binder resin and a colorant made by coating the surface of titanium oxide particles with a complex oxide of FeTiO_3 , Fe_2TiO_4 , and Fe_2TiO_5 (§§ [0015]; [0107]). These colorant particles have a BET specific surface area of 1.5 to 20 m^2/g , preferably 3 to 10 m^2/g (§ [0018]). Negative charge control agents may be added to the toner (§ [0037]). Hydrophobic silica is mixed with the toner as seen in the Examples (§ [0174]). Note the material amounts of the components of the examples' toners (e.g., Example 1 in § [0172]).

The instant claims require composite oxide fine particles but do not specify that the composite oxide is the only constituent of the particles. Consequently, the presence of a composite oxide on the surface of titanium oxide particles meets the requirements of the claims. Since the composite oxide has a ratio of Fe to Ti of 1:1 for FeTiO_3 , claim 9's limitations are met.

Claims 1-5 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 10-182163.

The JP document discloses a magnetic iron oxide particle containing silicon, which are used as magnetic particles for a magnetic toner (Abstract; document claim 5; § [0004]). The magnetic iron oxide particle has a BET specific surface area of 3 to 30 m^2/g , preferably 5 to 20

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m²/g (¶ [0044]; Table 3). The iron oxide is mixed with a binder resin to give the toner (¶¶ [0002]; [0080]; [0115]). The surface of the magnetic oxide particles may be treated with another metal, such as aluminum or titanium (¶¶ [0068]; [0097]) and a hydrophobic agent (Abstract; ¶¶ [0036] – [0039] & [0138] – [0140]). The magnetic oxide appears to function as a colorant in the examples' toners these are the only materials present to provide a coloring effect.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-182163.

This document was discussed above and that discussion is incorporated here. The JP document teaches that the iron oxide should be made hydrophobic (¶¶ [0036] – 0039]; [0049] – [0051]), such as by treatment by a hydrophobic agent, but does not teach the degree of hydrophobicity.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the hydrophobic character of the iron oxide because the reference specifically teaches that it wants to produce a hydrophobic iron oxide in order to optimize the dispersibility of the magnetic oxide in the toner and the artisan would produce a substantially hydrophobic iron oxide to obtain this result.

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Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gambayashi in US Patent Application Publication 2003/0198882 in view of Anno *et al.* in US Patent 6,100,000.

Gambayashi was discussed above and that discussion is incorporated here. The reference does not disclose the shape (or roundness) of the toner particles but does teach that stable charge characteristics are desired (§ [0010]). The reference also discusses various methods of making the toner including those where droplets of the toner components are dispersed in a liquid medium.

Anno teaches that toner particles usefully have an average degree of roundness of not less than 0.960 with a standard deviation of not more than 0.040 (Abstract). The reference teaches that toners having this shape have improved electrical charge characteristics with a sharp distribution of charge (col. 2, l. 48-59).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to produce the toner of Gambayashi with a roundness of 0.960 because Anno teaches that this shape gives good electrical properties, which are desired in the primary reference.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most weekdays from 6:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cdr
23 March 2006



CHRISTOPHER RODEE
PRIMARY EXAMINER